

**A NEW SPECIES OF SCAPHINOTUS DEJ., INTERMEDIATE
BETWEEN SCAPHINOTUS S. STR. AND IRICHROA NEWMAN**
(COLEOPTERA, CARABIDAE)

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Scaphinotus webbi, new species

Head elongate, relatively large; clypeus smooth; frons and occiput finely, transversely rugose; pronotum (Fig. 4) subcordate, its greatest width located one-third of distance from apex to base; greatest width one-and-one-third times greatest length; lateral margins strongly curved anteriorly, oblique but not sinuate posteriorly; pronotum strongly narrowed posteriorly, basal width equal to apical width, about one-half of greatest width; disc of pronotum finely, transversely rugose; disc with extreme lateral margins and ill-defined basal impressions sparsely, finely punctate; median, basal, and apical grooves distinct, moderately deep; lateral margins broadly reflexed, sharply marked off from disc by distinct crease; anterior angles slightly produced; posterior angles strongly produced, projecting about .3 mm. behind basal margin; posterior portion of lateral margin strongly reflexed dorsally, meeting basal margin at about a 45 degree angle, lying in a single plane, uninterrupted by swellings or sulci; lateral margin at about a 90 degree angle with inner margin of posterior lobe; posterior angles obtuse; basal margin narrow; anterior marginal seta present, at lateral end of distinct transverse carina, in outer third of reflexed margin at point of greatest width of pronotum; posterior marginal seta present, at lateral end of fine oblique carina, four-fifths of distance from basal impression to posterior angle.

Elytra ovate in outline; margins entire; margin slightly reflexed in humeral region; fifteen distinct striae present; striation slightly confused at extreme lateral margin and posteriorly; intervals smooth, slightly convex; striae moderately deep, punctate; fifth interval represented by distinct carina apically; elytral epipleurae finely punctate, rest of ventral surface smooth.

Anterior tarsi of male with adhesive hairs of first segment limited to apical third; aedeagus cylindrical, moderately curved; basal lobes over one-half as long as aedeagus, expanded distally, parallel and narrower in proximal half; parameres elongate, their sides subparallel, their basal margins scarcely emarginate; apices of parameres suddenly narrowed, filamentous, apparently flexible; a few very small setae immediately proximal to filamentous apex; internal sac sclerotized, its basal portion poorly differentiated, not suddenly and conspicuously narrowed, middle and apical portions not differentiated, folds of sac longitudinal.

Frons, disc of pronotum shining, dark metallic purple; reflexed lateral margins tinged with bluish purple; elytra shining metallic purple, more reddish than pronotum; occiput, legs, four basal segments of antennae black; ventral surface black with slight purplish tinge; mouthparts, outer segments of antennae brown.

Total length, 30.3 mm.; greatest width 13.9 mm.

Holotype.—Male, Campbell County, ten miles southwest of Lynchburg, Virginia, Glenn R. Webb, July 20, 1952. According to the col-

lector, the beetle was taken in a woods near a roadside spring on U. S. Highway 29.

Discussion.—This species could not be traced to subgenus in Valentine's (1935) key, since it combines the widely reflected prothoracic margins of *Scaphinotus s. str.* with the two pairs of marginal setae of *Irichroa*. From *Scaphinotus (Irichroa) viduus* (Dej.) (Fig. 2) it is easily distinguished by the broadly reflexed pronotal margins. The form of the pronotum is sufficient to separate it from both the known species of *Scaphinotus* from the eastern United States. In both of these species, the pronotum is much wider at the base than at the apex (Figs. 4 and 6), and the reflexed lateral margin is directed more laterally, rather than dorsally. The posterior portion of the reflexed margin meets the basal margin at an angle of about 30 degrees. The corresponding angle in *S. webbi* is about 45 degrees. In appearance, the new species is closer to *Scaphinotus unicolor* (Fab.) than to *S. elevatus* (Fab.). The latter species is much smaller than the others, and has a proportionally wider pronotum.

The discovery of *S. webbi* destroys the clear-cut boundary between the two subgenera. *Irichroa*, which is monotypic, is therefore considered to be merged with *Scaphinotus s. str.*, and *S. webbi* and *S. viduus* can be added to the species listed by Van Dyke (1938). The phylogeny within the group is puzzling. On the basis of external morphology, one would expect that *S. elevatus* and *S. unicolor* would be closely related, with *S. webbi* and *S. viduus* occupying isolated positions, equidistant from the first two species, and from each other. The male genitalia (Figs. 1, 3, 5, 7) do not bear out this conclusion. All four species have highly distinct genitalia. Those of *S. elevatus* and *S. unicolor* show no particular resemblance to one another. Superficially, at least, *S. elevatus* looks closest to *S. viduus*, the species to which it has the least resemblance in external appearance. The character of the internal sac separates *S. webbi* from the other species, all of which have a distinct basal duct which is much narrower than the sac proper. The great enlargement of the basal lobes of the aedeagus is also unique to the new species.

REFERENCES CITED

- Valentine, J. M., 1935. Speciation in *Steniridae*. Jour. Elisha Mitchell Sci. Soc. 51:341-375.
 Van Dyke, E. C., 1938. Review of the subgenus *Scaphinotus*. Entomologica Americana 18:93-133.

Fig. 1, aedeagus of *Scaphinotus viduus leonardi*, from Vermont; fig. 2, pronotum of *Scaphinotus viduus irregularis*, from North Carolina; fig. 3, aedeagus of *Scaphinotus webbi*, type specimen, from Virginia; fig. 4, pronotum of same; fig. 5, aedeagus of *Scaphinotus unicolor heros*, from Alabama; fig. 6, pronotum of same; fig. 7, aedeagus of *Scaphinotus elevatus flammeus*, from Illinois; fig. 8, pronotum of same.

